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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,739	09/28/2001	Woong Kwon Kim	043694-5015-03	2171

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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 03/18/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

ME 4

# Office Action Summary

Application No.

09/964,739

Applicant(s)

KIM, WOONG KWON

Examiner

Sow-Fun Hon

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11-17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 17 and 20-22 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1, 3-9, 11-16, drawn to an article, classified in class 428, subclass 1.1.
  - II. Claims 17, 20-22, drawn to a method, classified in class 427, subclass 165.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the article can be made by laminating a preformed protective organic layer and/or a preformed protective inorganic layer onto the glass substrate instead of forming them in-situ on the substrate.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with David Kenealy on February 21, 2002, a provisional election was made with traverse to prosecute the invention of Group I, claims 1,3-9, 11-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17, 20-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 3-9, 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. With respect to claims 1,9, it is unclear whether the limitation “formed on ... surface” means that the layer is actually in contact with the surface.

b. With respect to claims 1, 3, 5, 8-9, 11, 13, 16, it is unclear what the term “protective” means. Does it mean the provision of protection from just scratches, or also from current leakage, and loss of light transmittance due to reflection?

c. With respect to claims 1, 3-8, the term “thin” is vague and indefinite.

d. With respect to claims 4, 12, the term “compressive stress” is vague and indefinite.

e. With respect to claims 7, 15, it is unclear what the viscosity coefficient is. Is it the viscosity of the thermosetting resin before thermoset? Furthermore, it is also unclear what the limitations of “several” and “several ten cp” mean. Does several mean from 1 to 5 such that several ten means 1 times 10 to 5 times 10?

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

8. Claims 1, 3-6, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamaji et al (US 5,721,601).

Yamaji et al. has a liquid crystal device which has a substrate, a protective (insulation) layer formed over the first substrate and a protective (planarizing) film formed over the insulation layer (abstract). The substrate is made of glass and the planarizing film is taught to be made of thermosetting (epoxy) resins (column 19, lines 35-45). The insulation film is taught to be inorganic (silicon oxide) (column 12, lines 5-20). The display electrode is transparent (indium tin oxide) and flat which permits alignment (orientation) of the liquid crystal layer (column 8, lines 45-68).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7, 9, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaji et al.

Yamaji et al. teaches the claimed liquid crystal device as described above, but fails to teach the aspect of the alignment layer formed on the transparent electrode. However, Yamaji et al. does teach that the display electrode is flat to permit alignment (orientation) of the liquid crystal layer (column 8, lines 45-68). One of ordinary skill in the art would have recognized that the alignment layer formed on the transparent electrode would be readily determined through routine experimentation in view of Yamaji et al.

Because Yamaji et al. teaches alignment (orientation) of the liquid crystal layer, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified Yamaji et al. by forming an alignment layer on the transparent electrode in order to obtain a liquid crystal device with a well-aligned liquid crystal layer.

Yamaji et al. also fails to disclose the viscosity coefficient of the thermosetting resin in the protective (planarizing) film. However, Yamaji et al. does teach that a planar film is formed from a solution of the organic component (column 12, lines 45-68). One of ordinary skill in the art would have recognized that the viscosity coefficient of the resin, and its solution, is very low before thermoset, and that the viscosity coefficient of several to several ten cp would be readily determined through routine experimentation in view of Yamaji et al.

Because Yamaji et al. teaches that the planar protective film is formed from a solution of the organic component, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified Yamaji et al. by optimizing the viscosity coefficient of the thermosetting resin in order to obtain a liquid crystal device with a well-formed planar protective film.

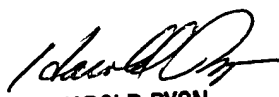
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Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH  
03/07/02

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

3/9/02